OBSERVATIONS AT HONOLULU.

The station is at 21° 18′ N., 157° 50′ W. It is the Hawaiian Weather Bureau station Punahou. (See fig. 2, No. 1, in the MONTHLY WEATHER REVIEW for July, 1902, page 365.)
Hawaiian standard time is 10h 30m slow of Greenwich time. Honolulu local mean time is 10h 31m slow of Greenwich.
The pressure is corrected for temperature and reduced to sea level, and the gravity correction, —0.06, has been applied.
The average direction and force of the wind and the average cloudiness for the whole day are given unless they have varied more than usual, in which case the extremes are given. The scale of wind force is 0 to 12, or Beaufort scale. Two directions of wind, or values of wind force, or amounts of cloudiness, connected by a dash, indicate change from one to the other.
The rainfall for twenty-four hours is measured at 9 a. m. local, or 7.31 p. m., Greenwich time, on the respective dates.
The rain gage, 8 inches in diameter, is 1 foot above ground. Thermometer, 9 feet above ground. Ground is 43 feet and the barometer 50 feet above sea level.

Meteorological Observations at Honolulu, February, 1903.

Date.	Pressure at sea level.	Temperature.		During twenty-four hours preceding 1 p. m. Greenwich time, or 1:30 a. m. Honolulu time.									Total rainfall at 9 a. m., local time.
				Temperature.		Means.		Wind.		Average cloudiness.	Sea-level pressures.		
		Dry bulb.	Wet bulb.	Maximum.	Minimum.	Dew-point.	Relative humidity.	Prevailing direction.	Force.		Maximum.	Minimum.	
	*	†	†			‡	‡			§			
1	30.11	69	62.5	74	69	58.7	66	ene.	5	5	30.18	30.08	0.01
2	30.12	70	63.5	74	67	59.5	68	ne.	4–5	7	30.16	30.10	0.03
3	30.05	70	62.5	75	69	59.5	66	ne.	4–5	3–7	30.16	30.04	0.00
4	30.03	68	64.5	75	69	60.0	70	ne.	4–5	8	30.09	30.01	1.35
5	30.05	70	64	75	66	61.5	73	ne.	3–5	8–4	30.10	30.01	0.40
6	30.14	70	63.5	75	67	60.5	73	ne.	5	6	30.19	30.05	0.45
7	30.14	69	64.5	74	65	59.7	70	ne.	5	5	30.19	30.09	0.25
8	30.07	71	66	74	67	63.7	78	ne.	5	5	30.16	30.05	0.10
9	29.99	63	62.3	76	68	64.5	80	ne.	3–0	4–1	30.11	29.99	0.00
10	29.93	56	55	77	62	64.0	80	wsw.	0–3	0	30.00	29.87	0.00
11	29.88	55	53.5	72	56	52.3	72	n.	0	0–1	29.94	29.81	0.00
12	29.90	54	53	73	53	55.0	79	n–w.	0–2	2	29.95	29.85	0.00
13	30.00	64	61.5	73	53	55.7	79	w.	2–0	2	30.02	29.93	0.00
14	30.06	66	57.5	74	61	58.3	72	w–n.	0–4	10–1	30.06	29.96	0.00
15	30.10	65	57.5	72	65	49.3	55	nne.	4	10–4	30.14	30.05	0.00
16	30.16	68	58.5	72	63	54.0	64	ne.	3–4	4	30.19	30.11	0.00
17	30.14	65	61	74	65	54.7	62	ne.	3	5	30.21	30.14	0.00
18	30.06	61	57	72	61	56.7	67	ne.	3	6	30.19	30.07	0.00
19	29.86	61	56.5	74	59	50.7	62	sw–n.	1–0	9–0	30.08	29.87	0.00
20	29.66	61	58	69	57	56.5	81	sw–w.	3–0	10–3	29.87	29.66	2.14
21	29.85	68	63	70	54	59.5	84	nne.	4	9–6	29.88	29.66	0.60
22	29.90	66	64	73	64	60.7	76	ne.	4	8	29.96	29.84	0.50
23	29.92	59	53.5	73	63	61.0	82	ne–n.	3–0	9–1	29.95	29.86	0.01
24	29.92	56	54	70	54	49.0	61	nw.	2–4	5	29.95	29.85	0.02
25	29.99	64	58	72	56	53.3	73	nw–n.	2–0	4	30.02	29.91	0.00
26	29.95	61	59	72	56	55.7	71	n.	2	5	30.02	29.92	0.00
27	30.00	63	59.5	73	61	54.3	68	nne.	3–0	1	30.05	29.93	0.00
28	30.04	62	56.5	73	57	54.5	70	ne.	3	10–3	30.07	29.99	0.00
29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sums	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.86
Means	30.001	64.1	59.6	73.2	61.3	57.0	71.4	.....	2.7	4.7	30.064	29.954	.....
Departure	+.045	.....	.....	.....	.....	—5.5	—5.0	.....	.....	—0.2	.....	.....	+0.38

Mean temperature for February, 1903, (6 + 2 + 9) ÷ 3 = 67.3; normal is 70.6. Mean pressure for February, 1903, (9 + 3) ÷ 2 = 30.003; normal is 29.958.
*This pressure is as recorded at 1 p. m., Greenwich time. †These temperatures are observed at 6 a. m., local, or 4.31 p. m., Greenwich time. ‡These values are the means of (6 + 9 + 2 + 9) ÷ 4. §Beaufort scale.
Maximum thermometer set at 9 p. m. and minimum at 2 p. m., local time.

Mean temperature table.

Stations.	Elevation.	Mean max.	Mean min.	Cor. av'ge.
	Feet.	°	°	°
Pepeekeo	100	74.6	63.9	68.3
Waimea	2,730	69.2	52.3	60.0
Kohala	521	73.6	61.5	67.0
Nahiku	1,600	67.5	59.0	62.5
Waiakoa	2,700	70.0	50.8	60.1
Ewa Mill	50	76.5	60.0	67.6
United States Magnetic Station	50	76.4	59.7	67.3
United States Experimental Station	350	73.8	62.2	67.5
W. R. Castle	60	.....	.....	66.8
Tantalus	1,725	.....	.....	.....
Hilo	40	76.6	62.0	68.6
Waikiki	15	73.1	63.8	68.0

Kohala, Bond, dew point, 58.4°; relative humidity, 73 per cent; Ewa Mill, 56° and 65; Magnetic Station, 57° and 71, same as Punahou.

As stated before, the month was the coldest on record, the dew-point also being the lowest. The marked disturbances of the month were about the 10th and 20th. Heavy surf, 1st–7th, 11th, and 21st. Snow on the 19th, 20th, and 23d. The first fell as low down on the mountains, including Hualalai in Kona, as yet known, the previous recorded snowfalls on Mount Hualalai being in 1892 and 1863. Seven thousand feet elevation is about the lowest limit of snowfall on the Hawaiian mountains.

Electric storms on the 19th and 20th on Maui and Hawaii. Earthquakes, Hilo, 9th, 11:23 a. m., and 21st; Waimea, 4th, 10 p. m.; Kohala, 4th, 12:20 a. m.

The total rainfall at Nahiku, Maui, at 1600 feet elevation, for the twelve months from March 1, 1902, to February 28, 1903, 429.48 inches.

CLIMATOLOGY OF COSTA RICA.

Communicated by H. PITTIER, Director, Physical Geographic Institute.
[For tables see the last page of this REVIEW preceding the charts.]

Notes on the weather.—On the Pacific slope the weather was quite normal for the season; i. e., hot, dry, and windy. For San José pressure and temperature were slightly above the normals, while the hours of sunshine show a large excess. On the Atlantic slope rain was rather scarce and the coast stations report several squalls with a stormy sea.

Earthquakes in San José.—February 1, 9h 15m a. m., light shock E–W, intensity I, duration 3 seconds. February 2, 12h 33m p. m., light shock N–S, intensity II, duration 5 seconds. February 3, 6h 20m a. m., rather strong and well-felt shock N–S, intensity III, duration 4 seconds. February 10, 6h 07m a. m., strong shock E–W, intensity III, duration 10 seconds. February 11, 4h 49m a. m., slight shock E–W, intensity II, duration 4 seconds. February 22, 3h 05m p. m., strong shock E–W, intensity III, duration 8 seconds. February 24, 8h 22m p. m., light shock E–W, intensity II, duration 4 seconds; 10h 12m p. m., slight shock E–W, intensity III, duration 6 second. Another shock, strong and dilated, is reported from Cachi and Paraiso, having been felt same day, 24th, at about 4 a. m. February 25, 6h 06m a. m., well-felt shock E–W, intensity III, duration 6 seconds. February 28, 4h 09m a. m., dilated tremors E–W, intensity III, duration 38 seconds; generally felt, frightening people. The same earthquake is officially reported from San Isidro de Alajuela.

THE TEMPERATURE AND RAINFALL DEPARTURES AT HAWAII, AS DUPLICATED IN NEW ENGLAND SIXTY DAYS LATER.

By ALTON D. ELMER, Northfield, Mass., dated February 11, 1903.

When the MONTHLY WEATHER REVIEW began publishing Curtis J. Lyons's Hawaiian observations it was said to be done for the benefit of those who wished to study for long-range seasonal predictions. I, therefore, inclose a copy (unverified for clerical errors) of some comparisons which I have just made, only extending them until I detected a corelation between the Honolulu monthly temperatures and those of New England two months later.

Table 1 shows that changes in the departures from monthly normals of rainfall in Honolulu are followed by corresponding changes in New England sixty days later, in a majority of cases, and the same holds good for the temperature departures.

Attention is called to the fact that the 60-day period, not only for precipitation but also for temperature, is much more marked as the records progress, thus confirming a suspicion that the whole difficulty in the earlier records was the want of good normals.

During 1902, rising or falling monthly temperatures at Hawaii were followed by increased or decreased precipitation in New England two months later, with the exception of but one and one-half months. The year 1902 was likewise remarkable in New England for having increased temperature accompany increased precipitation and decreased temperature accompany decreased precipitation every month but one. This is explanatory of the cold summer, corrected by a warm spring and a